

WHAT IS CLAIMED IS:

1. A film formation apparatus comprising:

first exhaust means;

second exhaust means;

a film formation chamber comprising a first evaporation source, a second evaporation source; and

means for simultaneously operating the first evaporation source and the second evaporation source,

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished, and

wherein the film formation chamber is connected with the first exhaust means and the second exhaust means.

2. A film formation apparatus comprising:

first exhaust means;

second exhaust means;

a film formation chamber comprising a first evaporation source, a second evaporation source; and

means for operating the first evaporation source and the second evaporation source in succession.

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished, and

wherein the film formation chamber is connected with the first exhaust means and the second exhaust means.

3. A film formation apparatus comprising:

first exhaust means;

second exhaust means;

a film formation chamber comprising a first evaporation source, a second evaporation source; and

means for operating the first evaporation source and the second evaporation source in succession without time interruption,

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished, and

wherein the film formation chamber is connected with the first exhaust means and the second exhaust means.

4. A film formation apparatus according to claim 1, wherein the degree of vacuum to be reached in the film formation chamber is 10^{-6} Pa or less.

5. A film formation apparatus according to claim 2, wherein the degree of vacuum to be reached in the film formation chamber is 10^{-6} Pa or less.

6. A film formation apparatus according to claim 3, wherein the degree of vacuum to be reached in the film formation chamber is 10^{-6} Pa or less.

7. A film formation apparatus according to claim 1, wherein the first exhaust means is a cryopump and the second exhaust means is a dry pump.

8. A film formation apparatus according to claim 2, wherein the first exhaust means is a cryopump and the second exhaust means is a dry pump.

9. A film formation apparatus according to claim 3, wherein the first exhaust means is a cryopump and the second exhaust means is a dry pump.

10. A film formation apparatus according to claim 1, wherein an average surface roughness of the surface of the inner wall is 5 nm or less.

11. A film formation apparatus according to claim 2, wherein an average surface roughness of the surface of the inner wall is 5 nm or less.

12. A film formation apparatus according to claim 3, wherein an average surface roughness of the surface of the inner wall is 5 nm or less.

13. A film formation apparatus comprising:
first exhaust means;
second exhaust means;
a film formation chamber comprising first evaporation means comprising a first plurality of evaporation sources and second evaporation means comprising a second plurality of evaporation sources; and

means for simultaneously operating the first evaporation means and the second evaporation means,

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished, and

wherein the film formation chamber is connected with the first exhaust means and the second exhaust means.

14. A film formation apparatus comprising:

first exhaust means:

second exhaust means:

a film formation chamber comprising first evaporation means comprising a first plurality of evaporation sources and second evaporation means comprising a second plurality of evaporation sources; and

means for operating the first evaporation means and the second evaporation means in succession.

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished, and

wherein the film formation chamber is connected with the first exhaust means and the second exhaust means.

15. A film formation apparatus comprising:

first exhaust means:

second exhaust means:

a film formation chamber comprising first evaporation means comprising a first plurality of evaporation sources and second evaporation means comprising a second plurality of evaporation sources; and

means for operating the first evaporation means and the second evaporation means in succession without time interruption,

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished, and

wherein the film formation chamber is connected with the first exhaust means and the second exhaust means.

16. A film formation apparatus according to claim 1, wherein the film formation chamber further includes a light source.

17. A film formation apparatus according to claim 2, wherein the film formation chamber further includes a light source.

18. A film formation apparatus according to claim 3, wherein the film formation chamber further includes a light source.

19. A film formation apparatus according to claim 13, wherein the film formation chamber further includes a light source.

20. A film formation apparatus according to claim 14, wherein the film formation chamber further includes a light source.

21. A film formation apparatus according to claim 15, wherein the film formation chamber further includes a light source.

22. A film formation method in a film formation chamber, comprising the step of:
simultaneously operating first evaporation means and second evaporation means in the film formation chamber,

wherein the first evaporation means comprises a first plurality of evaporation sources and the second evaporation means comprises a second plurality of evaporation sources,

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished, and

wherein the film formation chamber is connected with first exhaust means and second exhaust means.

23. A film formation method in a film formation chamber, comprising the step of:
operating the first evaporation means and the second evaporation means in succession,

wherein the first evaporation means comprises a first plurality of evaporation sources and the second evaporation means comprises a second plurality of evaporation sources,

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished, and

wherein the film formation chamber is connected with first exhaust means and second exhaust means.

24. A film formation method in a film formation chamber, comprising the step of:

operating the first evaporation means and the second evaporation means in succession without time interruption.

wherein the first evaporation means comprises a first plurality of evaporation sources and the second evaporation means comprises a second plurality of evaporation sources.

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished, and

wherein the film formation chamber is connected with first exhaust means and second exhaust means.

25. A film formation method in a film formation chamber, comprising the step of:

simultaneously operating first evaporation means and second evaporation means in the film formation chamber,

wherein the first evaporation means comprises a first plurality of evaporation sources and the second evaporation means comprises a second plurality of evaporation sources,

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished and an average surface roughness of the surface of the inner wall is 5 nm or less, and

wherein the film formation chamber is connected with a cryopump and a dry pump.

26. A film formation method in a film formation chamber, comprising the step of:

operating the first evaporation means and the second evaporation means in succession,

wherein the first evaporation means comprises a first plurality of evaporation sources and the second evaporation means comprises a second plurality of evaporation sources.

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished and an average surface roughness of the surface of the inner wall is 5 nm or less, and

wherein the film formation chamber is connected with a cryopump and a dry pump.

27. A film formation method in a film formation chamber, comprising the step of:

operating the first evaporation means and the second evaporation means in succession without time interruption,

wherein the first evaporation means comprises a first plurality of evaporation sources and the second evaporation means comprises a second plurality of evaporation sources.

wherein a surface of an inner wall of the film formation chamber is electrolytic-polished and an average surface roughness of the surface of the inner wall is 5 nm or less, and

wherein the film formation chamber is connected with a cryopump and a dry pump.

28. A film formation method comprising the steps of:

vapor-depositing a plural kinds of organic compounds simultaneously and successively changing a concentration of each of the plural kinds of organic compounds to thereby form a first organic compound film in a first film formation chamber which includes a plurality of evaporation sources:

vapor-depositing a plural kinds of organic compounds simultaneously and successively changing a concentration of each of the plural kinds of organic compounds to thereby form a second organic compound film in a second film formation chamber which includes a plurality of evaporation sources; and

vapor-depositing a plural kinds of organic compounds simultaneously and successively changing a concentration of each of the plural kinds of organic compounds to thereby form a third organic compound film in a third film formation chamber which includes a plurality of evaporation sources,

wherein the first organic compound film, the second organic compound film, and the third organic compound film exhibit light emission of different colors.

29. A film formation method comprising the steps of:

vapor-depositing a plural kinds of organic compounds simultaneously and successively changing a concentration of each of the plural kinds of organic compounds to thereby form a first organic compound film in a first film formation chamber which includes a plurality of evaporation sources;

vapor-depositing a plural kinds of organic compounds simultaneously and successively changing a concentration of each of the plural kinds of organic compounds to thereby form a second organic compound film in a second film formation chamber which includes a plurality of evaporation sources; and

vapor-depositing a plural kinds of organic compounds simultaneously and successively changing a concentration of each of the plural kinds of organic compounds to thereby form a third organic compound film in a third film formation chamber which includes a plurality of evaporation sources.

wherein the first organic compound film, the second organic compound film, and the third organic compound film exhibit light emission of different colors, and

wherein a surface of an inner wall of each of the first film formation chamber, the second film formation chamber, and the third film formation chamber is electrolytic-polished.

30. A film formation method according to claim 29, wherein an average surface roughness of the surface of the inner wall in the first film formation chamber, the second film formation chamber, and the third film formation chamber is 5 nm or less.

31. A film formation method according claim 28, wherein, in the same formation chamber, a first functional region comprising a first organic compound is formed and a second functional region comprising a second organic compound is formed.

32. A film formation method according claim 29, wherein, in the same formation chamber, a first functional region comprising a first organic compound is formed and a second functional region comprising a second organic compound is formed.

33. A film formation method according to claim 31, wherein a mixed region comprising the first organic compound and the second organic compound is formed in an interface between the first functional region and the second functional region.

34. A film formation method according to claim 32, wherein a mixed region comprising the first organic compound and the second organic compound is formed in an interface between the first functional region and the second functional region.

35. A film formation method according to claim 31, wherein each of the first organic compound and the second organic compound is an organic compound comprising one of a hole injection property, a hole transport property, an emitting property, a blocking property, an electron transport property, and an electron injection property, and the first and second organic compounds are formed of different organic compounds.

36. A film formation method according to claim 32, wherein each of the first organic compound and the second organic compound is an organic compound comprising one of a hole injection property, a hole transport property, an emitting property, a blocking property, an electron transport property, and an electron injection property, and the first and second organic compounds are formed of different organic compounds.

37. A film formation method according to claim 31, wherein a second mixed region comprising the second organic compound and a third organic compound is formed in a part of the second functional region.

38. A film formation method according to claim 32, wherein a second mixed region comprising the second organic compound and a third organic compound is formed in a part of the second functional region.

39. A film formation method according to claim 37, wherein the third organic compound is an organic compound with a light emitting property; and the first, second, and third organic compounds are formed of different organic compounds.

40. A film formation method according to claim 38, wherein the third organic compound is an organic compound with a light emitting property; and the first, second, and third organic compounds are formed of different organic compounds.

41. A film formation method according to of claim 31, wherein the first functional region comprises an organic compound with a hole transport property, and the second functional region comprises an organic compound with an electron transport property.

42. A film formation method according to of claim 32, wherein the first functional region comprises an organic compound with a hole transport property, and the second functional region comprises an organic compound with an electron transport property.

43. A film formation method according to claim 35, wherein an aromatic diamine compound is used as the organic compound with the hole transport property.

44. A film formation method according to claim 36, wherein an aromatic diamine compound is used as the organic compound with the hole transport property.

45. A film formation method according to claim 35, wherein one of a metallic complex including quinoline skeleton, a metallic complex including benzoquinoline skeleton,

an oxadiazole derivative, a triazole derivative, and a phenanthroline derivative is used as the organic compound with the electron transport property.

46. A film formation method according to claim 36, wherein one of a metallic complex including quinoline skeleton, a metallic complex including benzoquinoline skeleton, an oxadiazole derivative, a triazole derivative, and a phenanthroline derivative is used as the organic compound with the electron transport property.

47. A film formation method according to claim 35, wherein a metallic complex including quinoline skeleton, a metallic complex including benzoxazole skeleton, or a metallic complex including benzothiazole skeleton is used as the organic compound with the light emitting property.

48. A film formation method according to claim 36, wherein a metallic complex including quinoline skeleton, a metallic complex including benzoxazole skeleton, or a metallic complex including benzothiazole skeleton is used as the organic compound with the light emitting property.